

December 20, 1999

**Bureau of Land Management
National Office of Fire and Aviation
International Program**

Fiscal Year 1999 Activity Report

Introduction:

The Bureau of Land Management has a professional and talented work force. Some of these talents are reflected in the work done by BLM employees in their chosen careers. Other talents have been honed from previous work and life experiences that surface only when the employee is challenged in a new work environment.

During fiscal year 1999, the National Office of Fire and Aviation's (OF&A) International Program (IP) collaborated with fire and aviation and resource staffs from eight BLM states in a variety of international activities which involved over 40 BLM employees working in challenging new international environments. Some of these activities represented OF&A exchange initiatives with countries that face similar fire management issues. Other exchange activities involved BLM state offices and field offices hosting international fire managers whose knowledge and perspectives promoted new ways of meeting similar fire management issues. Support activities were a result of requests for support from other US Government agencies including the U.S. Forest Service and the U.S. Agency for International Development's Office of Foreign Disaster Assistance (OFDA).

From the trip reports and verbal discussions with those employees who were involved in international activities, the overwhelming consensus is that their experiences were enriching both professionally and personally. Here in the U.S., the exchanges offered the opportunity for BLM to positively showcase its fire management activities to the public through the interest generated in international visitors exchanging ideas, experiences, and perspectives with local BLM offices, the public, and the press. One field manager was quoted as saying that hosting two international fire specialists was good not only for her field office staff but also for the community.

Goals of the International Program:

The International Program has three main goals. The first goal is more pragmatic and focuses on improving Bureau programmatic activities. The second goal is to support other agencies using the skills and experiences of BLM's employees. The third goal is more subjective and works towards benefitting the employee. The three goals are:

1. Implement an international program for the National Office of Fire and Aviation which works with other nations to:
 - Share ideas, techniques, and skills,
 - Acquire new methods of dealing with common problems of wildland fire management.
2. Support other agencies using BLM employees to:
 - Improve the fire management skills of other nations,
 - Assist with the US Government's response to international disasters.
3. Provide international exchanges and assignments for employees which:

- Expand perspectives and knowledge,
- Increase professionalism,
- Enhance employee moral, self-esteem and motivation,
- Increase adaptability to new and challenging situations,
- Create an atmosphere for innovative thinking,
- Develop leadership qualities ,
- Highlight the diversity of skills and abilities within BLM.

The International Program for FY 99 at a glance :

General

Fiscal Year 1999 was a year of programmatic definition and expansion of activities for IP. Besides assisting over 40 employees from Idaho, Oregon, Alaska, Montana, Nevada, Arizona and the National Office prepare for and carry out their international assignments, IP coordinated the visits of 26 international visitors from five countries. Seven BLM states, Alaska, Nevada, Montana, Utah, California, Oregon, and Idaho, and OF&A hosted the visitors in support of IP activities.

Budget and Staffing

For FY99, IP was budgeted for \$200,000 for the international exchange program. Due to a heavy fire season in the Great Basin and scheduling conflicts with potential international visitors not all IP proposed FY99 projects were completed. Therefore IP completed FY99 under budget.

IP expanded its staff in June to a total of two when Connie Lewis was hired as the International Program Assistant. Connie had been involved in OF&A international activities for the past two years in her previous position in OF&A's External Affairs Office at NIFC. Her experience working with international travelers and visitors and her knowledge of BLM, Interior, the USDA, Forest Service, and State Department procedures and regulations, have made her an asset to the program.

Main Activities:

The International Program continues to concentrate in the following four activity areas:

1. Technical and Scientific Exchange Activities Dealing with Wildland Fire Management Issues

The National Office of Fire and Aviation looks at this portion of the IP as the most important. Through technical and scientific exchanges, BLM fire staff employees were exposed to new techniques, equipment, procedures and approaches to similar wildland fire management issues. Exposure to other countries' strengths and weaknesses may reveal better and sometimes simpler approaches to the same issue. These activities are funded by the OF&A and the states that have participated.

Technical and scientific exchanges involved sending nine people to Canada, three to Mexico, and six to Russia. Alaska, Nevada, Idaho, Oregon, and the National Office were

represented in these exchanges. In turn, Fire and Aviation staffs from Alaska, Nevada, Idaho, Oregon, Montana, California, Utah and the National Office, hosted six visitors from Mexico, six from Russia, and one from Norway.

2. Technical Support to International Wildland Fire Training, Assessment, Prevention/Education, and Mitigation Programs

IP worked closely with staff members of the Forest Service's International Programs on several projects dealing with international fire programs in Mexico, Brazil, Russia, and Indonesia. These activities are funded by the Forest Service with some BLM salary contribution.

3. Technical Support to the U.S. Government for International Disaster Response Activities

Through a reimbursable agreement with the Disaster Assistance Support Program (DASP), IP provided employees and services to the Office of Foreign Disaster Assistance (OFDA). Combining reimbursable billings for FY98 and FY99, the Forest Service reimbursed BLM for \$290,000. For FY99 alone, this included approximately 15 work months of base 8 salaries which were saved through this reimbursement. The reimbursement was for seven BLM employees collaborating with DASP or on detail with OFDA for over 20 calendar months (because of the high level of activity in OFDA, employees detailed to OFDA assignments were working seven days a week). Four of the seven employees deployed internationally in support of U.S. Government disaster relief efforts for victims of Hurricane Mitch and refugees from the war in Kosovo.

In an effort to continue to prepare employees to support OFDA in Washington and for potential international disaster assignments, IP worked with DASP to prepare and present four Disaster Assistance Response Team (DART) training sessions. Twenty seven BLM employees from both fire and resource staffs completed the training. The employees came from Alaska, Idaho, Nevada, Montana, California, New Mexico, Oregon, Wyoming, Colorado, Arizona, and NIFC.

3. Other international activities

These activities included participation in international meetings and conferences with fire and aviation issues, dealing with international agreements, and ongoing support to OF&A staff on international issues that arose throughout the year. These activities are funded by OF&A and by agencies and countries requesting assistance and participation.

INTERNATIONAL PROGRAM ACTIVITIES FOR FY99

INTRODUCTION

The following portion of the FY99 Activity Report provides information highlights on program activities coordinated by IP and implemented by BLM fire staff from state offices and the national office. It is broken into the three activity areas of IP. If after reading the highlights there is an interest in more information on an activity or an interest in the complete trip report, contact IP at NIFC.

I. TECHNICAL AND SCIENTIFIC EXCHANGE ACTIVITIES DEALING WITH WILDLAND FIRE MANAGEMENT ISSUES.

CANADA

✪ Review of Crew Resource Management Course - U.S. to Canada

Discussion: Larry Mahaffey, National Aviation Program, Hugh Carson, National Fire and Aviation Training Support Group, and Ted Mason, Boise Smokejumper attended a two day Crew Resource Management (CRM) course March 16-17, 1999 in Abbotsford, British Columbia. CRM is a course taken from the airline industry that is designed to improve cockpit performance and insure compatibility of pilots and aerial supervisors during air attack operations over a wildfire. The three BLM employees attended the course to gather materials to assist in the development of a similar test course that was to be given in the U.S. in May of 1999. The U.S. course was being designed to improve performance and enhance compatibility among pilots, smokejumper spotters, and air attack officers. Their attendance at the course was part of a BLM and Forest Service review of the pilot/air attack officer configuration used by the Canadians in their Bird Dog system for possible adaptation in the U.S.

Recommendations/Follow Up: The knowledge and materials they brought back were incorporated into a CRM course put on three times by BLM in 1999, once in Boise and twice in Alaska. The national aviation group is considering using the materials in the new CRM course in other aviation training areas such as a CRM course for helicopter crews and modules.

✪ Fire Retardant Study - U.S. to Canada

Discussion: Jeff Bass, National Aviation Program, participated in the second Canadian

exchange of 1999 by attending the Canadian Air Attack Officer - Level 1 course in Kamloops, B.C., March 21-26, 1999. Jeff's purpose for attending the course was to compare the Canadian course with the U.S. course, Air Tactical Group Supervisor (S-378). Jeff's initial impression was that it was an excellent course and included a more stringent testing and grading criteria than S-378. He was also impressed with the field portion of the course which had trainees participate in flight simulations with air attack airplanes and air tankers.

Recommendations/Follow up: Jeff recommended that some portions of the Canadian course should be more closely reviewed for possible inclusion in any revisions of S-378.

✪ Cessna Citation CE-500 Evaluation - U.S. to Canada

Discussion: Rusty Warbis, National Aviation Program Flight Standards Pilot traveled to Prince George, British Columbia May 10-16, 1999 to evaluate specific flight operations for the Cessna Citation CE-500 when used as a lead plane platform in Canada. Rusty participated in two familiarization flights and one crew practice flight, studied aircraft manuals, and discussed topics of interest with Canadian aviation personnel. He found the Citation to be an excellent lead plane in the areas of performance, speed, all-weather capability, comfort, outward visibility, single-engine safety, and maintenance.

Recommendations/Follow Up: Rusty recommended that BLM continue to consider the use of a Citation for a lead plane aircraft. A follow up evaluation of the Citation is planned for the spring of 2000 in Boise, as a part of a CRM course.

✪ Review of Canadian Provincial Fire Business Management Systems - U.S. to Canada

Discussion: Ed Lewis, Business Management National Office of Fire and Aviation, Joe Ribar Alaska Fire Service, Margo Fitts, Phoenix BLM Field Office, Marc Gress, BLM Washington Office, and Janette Archibeque, Forest Service Intermountain Region, traveled to Manitoba and Alberta, Canada August 15 - 21, to study the Canadian Provincial Fire Business Management Systems. The Canadian provincial governments utilize a number of automated programs to gather information and facilitate payment of employees and vendors incurred while suppressing wildland fires.

The Manitoba Provincial Government system uses personnel and additional outside contract support for programming, database design and development. The incentive for the development of the automated system was the demand of high level Provincial Officials to have instantaneous cost estimates on all wildland fires within the province.

Data entry is completed at the district level using handwritten reports that come from the fire camp. However, this system could be used at the actual fire camp if computer and communications devices were available. A common baseline for hardware and software is standard throughout the province, providing access at any level of the organization. Data entry screens are recompiled MS-DOS dBASE with interactive modules to create a relational database

with pull down menus. Reports are generated using Excel spreadsheet. Databases are replicated at each location with a centralized database residing on the main server. Future enhancements include web based application development with interactive GIS capability. The Manitoba system operates extremely well, delivering cost estimates that are within one tenth of one percent of real costs.

There are over 200,000 lakes over a mile long in the province. Water scooping air tankers which transport water from near by lakes to air drop on wildland fires are the primary initial attack method used by the Manitoba Province. Helicopters are also used to transport rapellers and provide water bucket drop support. The high cost of aircraft use coupled with an above normal fire season can rapidly accelerate provincial suppression costs, possibly over running suppression budget allocations. The “cost estimate program” which provides accurate and timely cost estimates prevents “surprise” year end budget deficits by providing provincial finance ministers time to adjust budgets and provide funding for greater than planned costs. Each cost estimate is matched and verified with vendor invoices and payment is then made.

While, in the United States, there is seldom a need to adjust funding to pay for exceptional suppression costs (only at end of year), there is a need for incident managers to consider costs associated with varied suppression strategies. Another requirement is to provide FEMA with acceptable cost data on disaster declared fires to make emergency payments to states and local counties. There is also the need to provide cost estimates to interagency partners for reimbursable and trespass fires and estimates to foreign countries when mutual aid agreements are activated.

Presently, the federal wildland fire agencies, and at least one state, use a cost estimate system called Incident Cost Accounting Reporting System (ICARS). FEMA accepts the accuracy of the system for making estimates to states and counties.

Team Recommendation: The Manitoba fire cost estimation system is impressive and quite accurate. However, the team is of the belief that the present ICARS system, used in the United States, is sufficient to satisfy the wildland cost estimates of the individual federal wildland fire agencies. The Manitoba application was developed to deal with the Provincial requirements (instant costing) which are not a primary necessity within the federal fire agencies in the U.S. The ICARS system also has the ability to deal with the interagency nature of federal fires in the U.S. while the Manitoba system does not.

The Alberta Provincial Government automated system was designed using full time, on-site contract support over the last four years. It is very complete, concise and fully operational at all levels of the organization including the fire line. A number of automated modules have been developed, such as aircraft tracking, fire resource location, and emergency firefighter payroll. The next module scheduled to come on line is for fire line property management.

Real time data entry is used along with decentralized input and access to a centralized database. Reports are generated by contract support staff. Ad hoc query capability is a future enhancement. Training has been provided to all offices within the province. Each user is assigned a logon and

password with various levels of security at entry and access points throughout the database. E.g. specific write permissions are granted to certain individuals with others receiving only general read permissions.

Team Recommendations: The team recommends that the Incident Practices Working Team (IPWT) of the National Wildfire Coordination Group continue to pursue and further evaluate the Alberta Provincial automated systems for possible application in the U.S. The IPWT has been charged with identifying the automation needs of the incident base and evaluating systems that have already been developed for their potential use in a national interagency system. The systems developed by Alberta may satisfy a number of those incident base requirements.

✪ **Canadian Delegation Visits the Alaska Fire Environment - Canada to U.S.**

Discussion: The BLM Alaska State Office, the Alaska Fire Service and OF&A hosted a delegation from Canada in Alaska June 6-10, 1999. The Canadian delegation included Al Jeffery, Director of the Canadian Interagency Fire Center, Kelly O'Shea, Fire Director for the Province of Alberta, and Murdoch Carriere Fire Director for the Province of Saskatchewan. The purpose of the visit was to observe how BLM is dealing with issues that are common to both countries such as:

- Implementation of fire plans and their affects on commerce,
- Similar urban interface issues,
- Fire effects on reindeer and caribou grazing,
- Fire protection levels placed on caribou migration routes,
- The impact of fire on reindeer commercial operations,
- Concerns about wildland fire in oil field development areas and along oil or gas pipelines.

The group started its trip in Anchorage where they received an initial briefing by the BLM State Office. They were also briefed by the State of Alaska's Office of Emergency Services and the Division of Forestry on urban interface issues and on the Miller's Reach fire. From Anchorage, they traveled to Nome to look at fire and resource issues relating to reindeer grazing areas. The next stop was the Alaska Fire Service (AFS) Galena field station to observe remote AFS fire management operations. From Galena it was on to Fairbanks to meet with AFS fire managers and receive briefings on the AFS program and a tour of the AFS facilities on Ft. Wainwright. They then flew by helicopter to a recent burn area near Fairbanks and then drove to the Alaska oil pipeline where they received briefings on the oil pipeline operations and BLM fire management policies for the pipeline corridor. The final leg of the trip took the group to Prudhoe Bay where they observed oil production operations and discussed emergency management and contingency planning and fire management polices for wildland fires in oil operations areas and along oil pipelines. The group then flew back to Anchorage and on to Canada.

Recommendations/Follow Up: The trip highlighted many of the similarities between the issues faced by both countries. It served as a forum for widening the doorway for closer cooperation on wildland and resource related issues between BLM and Canada. The on-the-ground visits

provided an opportunity for BLM fire and resource specialists to highlight the important work they are doing. The Canadians said that they were impressed with what they had seen in Alaska and that even though they share similar problems, the BLM Alaska approach had provided them with new viewpoints and ideas of how to improve their responses to wildland fires and fire related resource issues in Canada.

✪ BLM Team Studies Prescribed Fire Use - U.S. to Canada

Discussion: A five person BLM team of fire specialists traveled to Alberta, Canada September 12-19, 1999. The objective of the trip was to coordinate prescribed fire programs between Canada and the U.S. The team consisted of:

Phil Range, Fire Management Specialist, Office of Fire and Aviation, Boise, ID
John Shive, Fuel Management Specialist, Utah State Office, Moab, UT
William Swann, Fire Management Officer, Vernal Field Office, Vernal, UT
Dan Huisjen, Fire Management Officer, Socorro Field Office, Socorro, NM

The team traveled to several prescribed fire and wildland fire sites in Alberta. They viewed the affects of these natural and prescribed fires on aspen tree regeneration and exclusion.

The team felt that it had been an excellent trip and that they were better prepared to carry out aspen burning in the U.S.. The trip was very beneficial for the team members who are involved with the planning of the approximately one million acre area burn site in the Book Cliff area of Utah and Colorado.

Trip Conclusions:

- 1) When burning in aspen ecosystems, all other ecosystem components and processes need to be considered (grazing, predator, human, fire, trees, shrubs, and grass).
- 2) Aspen responds to burning very well by root suckering.
- 3) Elk grazing is detrimental to aspen suckering, even at low use levels (0-1 pellet group/100 meters square).
- 4) Fire history analysis needs to be done to show fire frequencies and return intervals and to develop acreage targets.
- 5) Burn sites need to be protected from grazing.
- 6) Burn sites need to be protected from subsequent fire events for 7-10 years or aspen suckering will be negatively impacted.
- 7) Mature aspen trees injured by bark stripping by elk are heavily armored from the ground up to 6-8 feet. This results in very few mature trees being impacted by low or even moderate intensity fires. This results in minimal stand mortality and minimal suckering.
- 8) Exclosures need to be utilized in key locations for control plots and for public education.
- 9) If aspen encroachments need to be removed, 2-3 fires over 5-10 years are required.
- 10) Landscape scale burns appear to be very effective in treating ecosystems.

MEXICO

☼ **Discussions on FY99 BLM -Mexico Exchange Program - U.S. to Mexico**

Discussion: Ron Dunton, OF&A Fire Program Management, Al Alvarez, BLM Arizona State FMO, Bill Clark, BLM Idaho State FMO, and Tom Frey OF&A IP, traveled to Mexico October 15-17, 1999 to meet with officials from Secretariat of Environment, Natural Resources, and Fisheries (SEMARNAP) to learn about SEMARNAP's organizational structure and operational activities and to discuss with SEMARNAP the BLM-Mexico exchange program for FY99. Besides learning more about SEMARNAP's structure, the group had the opportunity to visit two SEMARNAP field stations and a fire site from earlier in 1998. The stations were representative of many of the challenges SEMARNAP faces with urban interface issues and urban sprawl into forest preserves. They also observed the limited resources available to SEMARNAP to meet these increasing challenges. At the fire site the group learned how SEMARNAP collaborated and argued with the Mexican army about suppression tactics on a politically sensitive fire in extremely difficult terrain. The group came away with a much better appreciation for the issues facing SEMARNAP as it attempts to improve its fire management capabilities.

Recommendations/Follow up: In discussions at the conclusion of the meetings with SEMARNAP a tentative list of potential exchange activities for FY99 was developed. These discussions did evolve into the exchange activities which occurred in 1999.

☼ **Study of Operational Relationship between SEMARNAP and the Mexican Military- U.S. to Mexico**

Discussion: Bill Clark, BLM State Fire Management Officer Idaho and Andy Payne, Upper Snake River Field Office-South Central Area, Fire Management Officer, traveled to Mexico August 9-13, 1999, to study the operational relationship between the SEMARNAP and the Mexican military on wildland fires. SEMARNAP has the federal responsibility for wildland fire in Mexico. Bill and Andy were seeking to identify lessons BLM could learn from the Mexican model and adapt them to the relationship between the U.S. wildland fire community and the U.S. military. Some of the specific issues they were looking at included:

- When and how the Mexican military are activated,
- What training Mexican military forces receive and how;
- Fiscal relationships,
- Fire line relationship.

Bill and Andy learned that wildland fire training is a part of the Mexican military forces' training curriculum. Military forces are regionally and locally controlled rather than nationally and therefore can be dispatched more quickly to fires, even becoming involved in initial attack.

Recommendations/ Follow Up: Have not received full report yet.

☼ **Study of Tropical Forest Wildland Fire Issues, Quintana Roo, Mexico - U.S. to Mexico**

Discussion: Terry Hueth, BLM State Fire Management Officer Oregon/Washington, traveled to

Mexico September 19-24 to study tropical forest wildland fire issues in the State of Quintana Roo, which is located on the Yucatan peninsula. The objectives of the trip were to meet with local fire management officials, observe the social, technical and political issues of wildland fire in the urban interface and compare these observations with similar issues faced by BLM fire managers in the U.S.

Over the past decade, the Yucatan peninsula has experienced several severe hurricanes, which have resulted in a large amount of dead fuels over hundreds of thousands of hectares. The local agricultural practice for clearing the jungle is the use of fire through slash and burn. This combination has resulted in large fires in Quintana Roo. In addition to this, there is a fern (cilantrillo) that adds to the fuel loading and provides a paper like starter to increase susceptibility to fire size and spread. It is an annual plant, native to the tropical forest. However, it is found normally in the early successional stages of an open canopy. Once the canopy closes this plant disappears. These three circumstances have resulted in a fire cycle around the city of Cancun for the last ten years.

There are very few roads around the small villages and this restricts the initial attack capabilities of the local fire organizations. Dozers, helicopters, and fixed wing aircraft are all needed to provide for detection and immediate response to fires before they get too large. This type of equipment is not always available and takes time to acquire, resulting in larger fires keeping a fire return interval of every three to five years. When these fires are close to the city of Cancun it results in air quality and smoke management issues. The airport frequently gets closed down due to low visibility. The fire season occurs from April through June, during the peak tourist season for the City of Cancun and the local beaches.

As the city expands there is more development into the local forests and again the most efficient way to clear the jungle floor is to indiscriminately use fire. Another impact is the collection of rock for building material and fire is used as a tool to clear away the vegetation to get to the rocks.

With the three different ignition sources and the fuel loading from the hurricanes and the infestation of cilantrillo, Quintana Roo has been in a fire cycle for the past ten years that has resulted in a loss of many hundreds of thousands of hectares of tropical forest.

Even with these problems, Terry reported that the local fire managers have developed a strong relationship with the local politicians and have developed the ability to get communities involved in fire suppression. A large firefighting force can be mobilized rapidly using local civilians and the military. There has been a great effort by the fire managers to have all the politicians gather when multi-agency coordination (MAC) situations arise which has improved decisions on how to strategically get forces to the fires. Equipment, personnel and logistical support is provided through this community effort with leadership provided by the local members of SEMARNAP.

Recommendations, Follow-up Actions: Terry said it was very informative to watch how local fire managers worked with the local citizens and politicians to better prepare for fire and other natural disasters. He observed that roles and responsibilities were clear to those who needed to

take action. He said that SEMARNAP, in the State of Quintana Roo, has done an excellent job in recruiting and training those critical to the success of their mission.

Terry recommended that as a part of the Mexico BLM exchange, BLM bring the newly appointed SEMARNAP representative from Quintana Roo to Oregon/Washington to look at a fire organization that is complete with all initial attack capabilities and to shadow the Deputy State Director dealing with the political interests at this level. This would give the SEMARNAP representative a good understanding of what is needed to be successful in the position. Also, it would give BLM managers an understanding of state issues from a Mexican perspective.

Terry also made the observation that the fire cycle and issues with the cilantrillo are very similar to the cheat grass problems that BLM faces in the West. What's new is the culture of the Mexican subsistant farmers in the small villages to use fire as a tool for clearing the forests for crops. There is very little soil in this part of the Yucatan with no rivers or riparian areas as a base for soil building or aggregation. The tropical forest can have a closed canopy in about 6-8 years if fire is excluded. This would result in a decline in the cilantrillo and break the spread of fire. These are the same issues that BLM deals with when trying to manage a noxious weed infestation. In both cases, fire is a contributor to the problem. The challenge for fire managers in both locations is to break this cycle.

❖ Observation/Evaluation of SRV Training - Mexico to U.S.

Discussion: Two SEMARNAP fire officials came to the U.S. to observe how BLM identifies, organizes, trains, tests, and equips the Snake River Valley (SRV) crews. During the unprecedented 1998 fire season in Mexico, over 70 civilians had died fighting wildland fires and SEMARNAP was interested in observing how BLM trains non-permanent civilian fire crews. The two officials from Mexico were first briefed on the national fire and aviation program in Boise and then traveled to Vale, Oregon where they observed SRV training first hand, including participation in the one week field training. Because of their backgrounds in fire suppression and fire training, the Mexicans were able to assist during portions of the training. They were in the U.S. May 24-June 12, 1999.

Recommendations/Follow Up: In the closeout with the Mexican officials they said they were very impressed with the SRV training and especially liked the pack test as a way to insure that the crewboss is getting firefighters who are physically fit. They pointed out that, as in the U.S., fitness standards are an issue with worker unions in Mexico. One of the officials was from the Mexican state of Durango where he said they would incorporate some of the materials they picked up in future training programs. As they observed the training, they were able to point out some of the translation deficiencies in the SRV training materials and offer suggestions on improving the materials. The Vale fire management staff was very complimentary of the two Mexicans and said they had been an asset to the training. Both the Vale staff and the Mexican officials felt that this exchange should continue. A recommendation was for the Vale staff to go to Durango and observe the Mexican training program and for SEMARNAP to consider sending members of its staff to Vale for the 2000 SRV training session.

☛ Observation/Evaluation of BLM Engine Program - Mexico to U.S.

Discussion: Two SEMARNAP officials came to the U.S. to observe and evaluate BLM's fire engine program. They were interested in learning:

- What training is received by the fire engine crews,
- What equipment is used on the fire engine;
- How the fire engine and crew are used together to fight fire,
- How the decisions are made as to what types of engines and equipment to buy,
- How the decisions are made in the design of the engines,
- How BLM works with private contractors who actually put the engines together.

The two officials were in the U.S. July 19-July 30, 1999. They began their trip in Boise where they received a briefing on the national fire and aviation program. They also received an in-depth briefing from Robert Stroud, BLM Equipment Development Specialist, on the engine development program and contracting procedures used by BLM for purchasing engines. They then spent the next two weeks in Shoshone, Idaho observing first hand the Upper Snake River Field Office-South Central Idaho Area engine program. Unfortunately, the timing for observing engines on fires didn't work out and they only observed the use of engines on a small prescribed fire. However, they did have an excellent opportunity to study engine configurations, engine crew training and some engine fire suppression tactics.

Recommendations/Follow Up: At the closeout in Shoshone, the Mexican officials said that they initially had been skeptical about the use of fire engines on wildfires in Mexico, but after observing the program, they believe there are some practical applications for engines in the Mexican wildland fire environment. One problem they must deal with in Mexico is a lack of funding to procure engines. Another issue for them is the lack of water sources to refill engines. They recommended a follow up exchange where a light and a heavy engine would come to Mexico to demonstrate wildland fire engine capabilities. They were interested in the potential of receiving excess engines. They also recommended that if we continue with a follow up to this exchange that there be a week of intense orientation to the wildland fire engine to include maintenance and use of the engine as well as the equipment, from pre-dispatch through clean up and gear rehab after a fire assignment.

☛ Visit to NIFC by SEMARNAP Delegation - Mexico to U.S.

Discussion: BLM has had an exchange program for the past two years with SEMARNAP. During that time there was an effort to arrange for a visit by a high level delegation from SEMARNAP. This visit occurred when Dr. Victor Villalobos Arambula, Sub Director of Natural Resources for SEMARNAP, and Mr. Victor Sosa Cedillo Director General of Forestry for SEMARNAP came to visit BLM and the National Interagency Fire Center September 14-18, 1999. They were joined by Mr. Paul White, Mission Director, US Agency for International Development (USAID) Mexico. The purpose of the trip was for these officials to gain a better

understanding of BLM's fire fighting policies, programs, and procedures. The visit also had these objectives of introducing the delegation to :

- The national interagency coordination system,
- The infrastructure and systems that make interagency coordination effective,
- The need for a standardized training and qualification system,
- The interagency working relationships at the national level, the state/regional level and field levels,
- How fire planning process works with the budgetary process,
- The National Fire Danger Rating System,
- Observe fire effects and rehabilitation efforts following a wildland fire.

The delegation had the opportunity to be briefed by several staff members, and to view the NIFC facilities and operational activities, the Boise Interagency Logistics Center, and the rehab work that was carried out after the Boise Foothills fire.

Recommendations and Follow Up: The SEMARNAP officials and Mr. White from USAID in Mexico felt that the three days had been very informative and provided them with a great many ideas on how to look at SEMARNAP's fire and resource issues. Dr. Villalobos mentioned that SEMARNAP is in the process of building a new coordination center and he would take some of the ideas he saw in Boise and incorporate them in the new center. Discussions included developing methods and protocols for potential future collaboration among nations when the capabilities of the affected country are overwhelmed. The delegation realized the need for training and qualification standards in Mexico and said that a closer look at the U.S. system might be a good activity for future exchanges. They also wanted to explore the possibility of sharing weather information along the border. They were interested in proposing joint research activities with the Joint Fire Science Program. They also said that Mexico is proposing an international meeting next spring to recognize and discuss common global problems of wildfire. A point they wanted to stress is that they agree that prevention and fire education need to remain a main thrust of their fire management program.

RUSSIA

★ BLM Smokejumpers - U.S. to Russia

Discussion: Four BLM smokejumpers, Kasey Rose and Tim Caughlin from the Boise smokejumper base and Matt Allen and Marty Meierotto from the Alaska Fire Service smokejumpers traveled to Russia as a part of the ongoing exchange with the Russian smokejumper program. Kasey and Tim were in Russia May 26- June 23, 1999. Matt and Marty were there July 22-August 25, 1999.

The objectives of the smokejumper exchange were to give BLM smokejumpers the opportunity to work side by side with the Russian smokejumpers to gain first-hand knowledge of how the Russians operate on a day-to-day basis, both during presuppression and suppression and to have a

better understanding of Russian smokejumper and fire suppression equipment. This exchange also presented a new and challenging work environment for the four smokejumpers who participated in the exchange.

Kasey and Tim received a thorough orientation to Russian smokejumping methods, parachute systems, and rappelling operations. However, a wet June prevented them from using what they had learned on a fire jump or comparing Russian fireline techniques with U.S. techniques.

Matt and Marty, after their jump training, did have the opportunity to be assigned to two fires, a 40 acre fire for three days and a 5,000 acre fire for six days. But the active part of the fire season in that area of the Russian Far East where they were, was over by the time they arrived. While on the fires they did have the opportunity to observe direct attack fire tactics which they said were similar to those used in the U.S. In discussions with Russian smokejumpers they found out that indirect attack tactics were also similar. The firefighting equipment they used or observed, included back pack pumps, portable pumps and a cumbersome chainsaw.

Recommendations/Follow Up: There were some specific recommendations from this exchange. The Russians use an Automatic Activation Device (ADD) as a safety factor to deploy if the smokejumper fails to deploy the main chute. The ADD is a metal box roughly 6"x6" that sits on the jumper's harness over the right hip and is exposed to the body when the jumper lands and does a parachute landing fall (PLF). U.S. smokejumpers consider a standup landing as a safety risk while Russian smokejumpers are taught to do only standup landings. In previous exchanges of both Forest Service and BLM smokejumpers trip reports have mentioned the ADD as an interesting safety concept but this trip report pointed out the specific safety risk of the ADD to U.S. smokejumpers every time they do a PLF. BLM uses the reserve static system (RSL) which automatically deploys the reserve canopy when the main canopy is cut away. It is a fairly simple safeguard against total malfunction without having a metal box attached to your hip.

Both groups also commented on how the Russians cover many roles with each person or piece of equipment, out of necessity. Both groups of smokejumpers felt that the economic situation in Russia caused the Russian fire suppression organization to follow a minimalist approach in all aspects of fire suppression including people and equipment. But the Russians still went about their jobs as professionally as possible, doing quality work with their limited resources.

Language proficiency was an issue for both groups even though they had all had some language training. The training was not enough and language was a barrier to learning all that they could have. They recommended that future assignments like this include a higher proficiency in Russian prior to departure.

Both groups suggested a good first aid kit because health facilities are very poor in Russia.

And finally, both groups felt that the exposure to a different system of working and living was personally enriching and was just as important as what they gained professionally.

☛ Cheat Grass Study - U.S. to Russia

Discussion: From August 15 to August 24, 1999, BLM Nevada State Director Bob Abbey and

Joint Fire Science Program Manager Dr. Bob Clark traveled to the Volgograd Region of Russia to study cheatgrass in its natural environment. Cheatgrass is classified as a weed of Euro-Asian origin, and is commonplace and troublesome in much of the western United States.

The objectives of the visit were to determine whether:

1. Cheatgrass (*Bromus tectorum*) actively invades disturbed sites in its natural environment,
2. Competitive relationships exist between cheatgrass and other community cohorts, including shrubs, which provide natural ecological controls,
3. Cheatgrass, in its natural environment, contributes to additional fire frequency or hazard,
4. Russian landowners and agencies have developed successful cheatgrass control methods,
5. Natural limits exist with respect to ecological factors such as soil type or climate,
6. There are approaches to managing cheatgrass used in Russia that have not been attempted in the Great Basin.

Abbey and Clark were hosted by the Russian Aerial Forest Protection Service (Avialesookhrana). Their trip in the Volgograd region included visits to an experimental forest (Research and Science Institute), to the Russian Forest Service Volgograd Regional Office, and to three National Forests. The trip involved both office and field site visits.

Cheatgrass, medusahead (*Taeniatherum caput-medusae*), and other weeds of western North America are believed to have originated in the Euro-Asian region. There, they are natural components of complex ecosystems. As such, they occupy inconspicuous roles and are neither weeds nor problems. In fact, many plants considered weeds in western North America are prized in the Volgograd Region for medicinal or other purposes. For example, St. Johnswort (*Hypericum perforatum*) is used as an herbal tea to treat a variety of ailments.

Abbey and Clark traveled along a north - south route on the west side of the Volga River. Most sites were occupied by complex grass - forb communities with occasional half-shrub co-dominants (usually *Artemisia sp.*). Most of the woody species observed were planted tree species (several pines, and hardwoods that included oaks and maples). There were only a few woody shrubs; one, an American species of aspen (*Populus sp.*), was deliberately introduced into Russia. It has escaped and become the “cheatgrass” of the Region. The Volgograd Region contains some 2,000 species of plants. Cheatgrass was present in most communities - as a minor component.

The following represents Abbey and Clark’s observations and findings concerning their trip objectives.

Objective #1, Invasion on Disturbed Sites. They observed several recently disturbed sites. These disturbed sites were usually either plowed fuel breaks or abandoned fields on (formerly) collective farms. Cheatgrass was frequently a dominant species, often in monocultures. Our hosts indicated that these sites, in early or mid-succession, would naturally recover in about six years.

Objective #2, Competition. The Volgograd Region has over 2,000 species of herbaceous plants, and competition with cheatgrass is extreme. However, shrubs did not appear to be

a major factor in plant community recovery.

Objective #3, Fire Hazard. Over 80% of wildland fires are human caused and cheatgrass does increase fire risk. The Russian Forest Service has an active public relations campaign to keep citizens informed of the additional risk. In particular, the native regional vegetation contains few trees and all of the current forestation efforts are intensive. The primary purposes of the plantings are to (1) serve as windbreaks to reduce wind erosion, (2) stabilize soils to reduce water erosion, (3) provide shade, and (4) increase organic matter composition in the soil. Consequently, the “protection strips” are extremely valuable and respected by the local citizenry. Therefore, although cheatgrass does increase the fire hazard, an active fire prevention program apparently works to prevent most additional fires. Lightning caused fires are rare.

Objective #4, Cheatgrass Control. Because natural recovery occurs readily, agencies and other landowners have not actively pursued artificial cheatgrass control.

Objective #5, Ecologic Amplitude of Cheatgrass. The sites visited were fairly consistent with respect to soil type, climate, and other ecological factors. Therefore, they were unable to compare/contrast cheatgrass response to different conditions.

Objective #6, Cheatgrass Management. Competition (and probably other factors) rapidly reduce cheatgrass to a minor component on the sites we visited. Therefore, agencies and landowners have not needed to develop management schemes to address cheatgrass problems.

From observations, and discussions with scientists on different Forests, Abbey and Clark believe that there are two primary reasons that cheatgrass is not a serious management problem in the Volgograd Region. First, due to the large number of species present, competition for resources is extreme and cheatgrass is unable to dominate most sites for more than a few years. Second, although total annual precipitation is only slightly higher than the Great Basin, a sufficient amount falls during summer to allow perennial grasses and forbs to continue growth well beyond the end of the cheatgrass life cycle.

There may be additional factors which suppress cheatgrass dominance. For example, the minimum annual temperature in Volgograd is -10 degrees C (14 degrees F) and Russian scientists suggested that temperature may be a factor. Although the northern part of the Great Basin is typically colder, there also appear to be Great Basin sites supporting cheatgrass that do not get colder than 14 degrees F. Therefore they did not believe that temperature is a major limiting factor. A second factor suggested was the higher relative humidity - which would reduce evapotranspiration and therefore reduce the demand for soil water by longer lived perennial grasses and enable them to grow well into August. Finally, they only visited sites with a high fraction of sand - which is not typical of Great Basin cheatgrass sites. It is possible that one or more of the other three general soil types in the Volgograd Region (Sierozem (gray desert), Solonetz (alkali), “blackland”) have a different relationship with cheatgrass.

Cheatgrass is native to, and present in, Volgograd Region plant communities. They believe that extreme competition from other plants, and summer rainfall which enhances growth of longer lived perennial grasses and forbs, contribute to the suppression of cheatgrass to a minor role.

Recommendations and Follow up: This visit was viewed by Bob Abbey and Bob Clark as a “pilot” visit - to make some initial determinations and ascertain whether additional, more focused visits, would be beneficial. They believe that one or more additional visits are warranted and have the following recommendations:

- Re-visit the Volgograd Region, but travel in an east - west direction which would cross all four major soil types. It would be especially valuable to include a soil scientist on this visit. A few tools of the trade would be useful such as a color chart, method to determine organic matter content, etc.
- Locate and visit the center of distribution of the Russian steppe - in order to evaluate the shrub component. Russian scientists indicated that the Lake Baal Region should be included.
- Regardless of team makeup, a small professional tool kit should be included for each visiting scientist. For example, we could have better determined weather conditions if we had included basic weather-measuring instrumentation (air temperature, relative humidity)
- Specifically request that Russia provide a scientist familiar with each Region to be visited. The scientists we worked with were extremely well qualified and helpful and enabled us to put observations into perspective.

☛ Russian Smokejumpers - Russia to the U.S.

Discussion: Four Russian smokejumpers came to the United States May 17- July 1, 1999. As with the BLM smokejumpers who traveled to Russia, the goal of the four Russian smokejumpers was to work side by side with BLM smokejumpers to gain first hand knowledge of how BLM smokejumpers operate on a day-to-day basis.

The Russians were highly experienced. All four were instructors and supervisors of from 20 to 400 smokejumpers and rapellers. They received training on BLM's parachute system, which was simplified by the fact that their system is very similar to BLM's. They did several training jumps and were then paired with BLM smokejumpers who spoke and understood some Russian. When they arrived, the fire season was not active, but they were able to become involved in prescribed fire activity in Oregon. They mentioned that their prescribed fire program was only for burning off dead grasses in the early spring. There is no large program for fuels reduction or ecosystem regeneration in Russia. They did get on some small fires in the Boise area and toward the end of the exchange they were sent to Alaska where they all got on at least one fire.

They contrasted Russian fire fighting with its greater distances and limited resources with the vast amount of equipment and technology and speed of delivery they saw available to the U.S. fire fighter, even for the smallest of fires.

As with the group of Russian smokejumpers who visited last year, this group said they preferred their "group" system where the same group of 6-8 smokejumpers works together all the time

whether it is a big fire or a small fire.

They said there were some aspects of the BLM smokejumper training program that they would like to implement in Russia. They liked the use of several jump spots for training whereas in the Russia the training emphasis is on the number of jumps not the variety of jump spots.

Recommendations/Follow Up: Their first recommendation was that the exchanges continue. They saw them as beneficial to both sides. They suggested that a full "group" come over on the exchange so that BLM smokejumpers could see the *group dynamics* first hand. They would like to see the exchange extended for two months. They were interested in learning more about BLM's prescribed fire program feeling that prescribed fire will play a larger role in Russian land management in the future. And finally as instructors, they commented that Russia is cutting back on new smokejumpers and they thought it would be useful to have a Russian smokejumper go through the entire rookie training to learn more about the BLM training program.

✿ Russian Smokejumper/Rapellers to Helitack - Russia to U.S.

Discussion: Two Russian smokejumper/rapellers were in the U.S. July 10- August 27, 1999, to learn about BLM helitack and helicopter operations. Their exchange began in Boise where they were given a tour of NIFC and briefed on the BLM fire program. On July 13 they were scheduled to drive to Elko, Nevada to begin their exchange, but heavy fire activity occurred in the Great Basin and they went directly to a fire in the Western Great Basin. For the rest of their exchange they stayed actively involved with the Elko Helitack crew learning a great deal about BLM and interagency helicopter operations and fire operations. They were involved in a total of 19 fires of all different sizes and were impressed with the variety of fire activities and level of responsibility assigned to helitack crew members on fires. In Russia there is no "helitack," and jobs dealing with aviation assets are compartmentalized and segregated from firefighters. They met and worked with helitack crews from several states which gave them an idea of how the interagency fire community uses the total mobility concept. They also had the opportunity to observe ICS in action. They felt the BLM emphasis on physical training was important, an emphasis which is not shared in Russia. The telecommunications systems used on fires in the U.S. was also impressive to them. They felt overall that it was an excellent exchange and they planned to adapt many ideas in Russia.

Recommendations/Follow Up: As with the smokejumpers, their first recommendation was that these exchanges should continue. They suggested that a six to seven week time frame was about right. They said they would like to see an exchange with European Russia where the BLM could observe Russian helicopter operations.

✿ Russian "FMO's" - Russia to U.S.

Discussion: Three Russian fire management officials at the FMO level within the Russian fire suppression organization were hosted by the Montana BLM State Fire and Aviation Office, July 21- August 11, 1999. The purpose of their trip was for the FMOs to study the BLM fire and aviation program from a State Office perspective, to share their knowledge and impressions of the

BLM program, and to contrast BLM operations with the Russian fire management program.

The first stop for the Russians was Boise, where they received a briefing on the National Office of Fire and Aviation and took a tour of the NIFC facilities. With this perspective as a background, they flew to Billings, Montana to learn about the fire program at the BLM State Office level. They had the opportunity to observe field office operations in Lewistown and Miles City. They also traveled to Yellowstone National Park where they were able to see the fire affects from the 1988 fires and the rehabilitation of the park. They also had the unique opportunity to accompany BLM officials to the 50th anniversary commemoration of the Mann Gulch fire tragedy.

In their closeout, the Russians commented how impressed they were with the interagency wildland fire coordination system, at the federal, state and local levels. They said that in Russia all wildland firefighters are federal employees but there is no coordination at the level they saw here in the U.S. They were also impressed with the Multi-agency Coordination (MAC) Group concept and how it worked as the level of fire activity increases. Another area they were impressed with was the emergency radio cache system and its interoperability among agencies. In Russia they have only small non-interchangeable caches. And finally they pointed out that in Russia, the fire service must buy weather information whereas here it is free.

Recommendations/Follow up: Although the Russians felt their itinerary was very informative, they wished they could have studied some aspects of the fire management system in more detail. They recommended a trip that would include one week in Boise to study the national level, one week at the state level and finally one week on fires to study ICS. Besides ICS, they were very interested in learning about the interagency dispatch and coordination system. Another area of interest to them was the BLM fire prevention (education) program, because in Russia there is little to no prevention emphasis.

✪ The Russian Fire Management Delegation Trip to the U.S.

Discussion: The National Office of Fire and Aviation invited four officials from the Russian Federal Forest Service and its fire management organization, Avialesookhrana, to visit the United States October 18-28, 1999:

Eduard P. Davidenko - Chief of Science and Technology Department, Avialesookhrana
Victor V. Veselov - Deputy Chief of Regional Forestry
Alexander G. Ereemeev - Russian Dept. of Natural Resources
Biacheslav Lantsev - Chief of Regional Aerial Fire Center

Although this trip occurred in FY 2000, it is being included in the FY 1999 report because it was a trip that had been scheduled for FY 1999 and had been delayed until October. This trip also involved discussions about the BLM-Russia exchange program for 1999 and a planning session for 2000 exchange activities.

The delegation's first stop was in Washington, D.C. where they were the first representatives from the Russian Forest Service and Avialesookhrana office to visit BLM's national office. The

purpose of the Washington, D.C. portion of the itinerary was to meet senior managers within the Bureau to discuss the accomplishments of the exchange program over the past two years and to share ideas for potential further collaboration in fire and aviation and possibly other resource related issues. They also took the opportunity to discuss the exchange program with the Department's International Affairs group.

Following the visit to the Washington Office, the delegation traveled to Boise to tour the National Interagency Fire Center. There they discussed fire and aviation management issues with National Office of Fire and Aviation staff and gained knowledge about the BLM fire and aviation program.

The final leg of their trip was to Nevada and California. The delegation visited the Nevada BLM State Office and was briefed by Nevada State Director Bob Abbey and State Fire Management Officer Kevin Hull, on state level fire and aviation operations and the 1999 fire season. They also had the opportunity to view the effects of the numerous large fires from this past fire season in the Reno and Carson City area.

On October 26, the delegation drove to the Susanville, California field office and toured the Susanville interagency dispatch office. They also saw the effects of a large forest fire that occurred late in the 1999 fire season and a subsequent salvage sale operation.

The delegation returned to Russia on October 28.

Recommendations /Follow up: In their discussions the Russians felt that the 1999 exchange program had been very successful for the Russian participants. They felt that these exchanges should continue in 2000. OF&A and the Russians did develop a list of possible exchange activities for 2000. These exchange activities will be further refined in the next few months.

NORWAY

☛ Norwegian Emergency Management Official - Norway to U.S.

Discussion: As part of an ongoing BLM exchange program with Norway, a Norwegian emergency management official spent two weeks in the U.S., August 16 - September 3, 1999, studying emergency response systems including observing first hand, the Incident Command System on a wildland fire.

The Norwegian official was initially hosted by Pat Kidder, California BLM State Fire Management Officer. He received an in-depth briefing of how various federal, state and local agencies coordinate to manage wildland fire in California, with an emphasis on the written agreements that make it work. He also had the opportunity to be briefed on the interagency dispatch/coordination system. He visited interagency dispatch offices that have *all-risk* responsibilities and learned about the "911" system used in the U.S. and how the 911 calls that deal with wildland fires are linked back into the fire dispatch offices.

The second part of his trip was hosted by the Sheldon Wimmer, Utah BLM State Fire Management Officer. In Utah, he observed another BLM State Fire and Aviation operation at the State Office

level and at the field office and field station levels.

The final leg of the trip was to Boise, September 1-3, where he had the opportunity to be briefed on BLM's National Fire and Aviation program and to tour NIFC facilities and operations.

In his trip report, he made several comparisons. He commented that because of Norway's size, a NIFC sized organization would not be needed but that geographical area coordination centers might be more in line with Norwegian needs. The Norwegian emergency management response system uses presupposed requirements unlike ICS which is incremental and builds up as needed.

Recommendations/Follow up: The Norwegian official was very impressed with all that he saw and heard about BLM, the interagency wildland fire coordination system, and ICS. He recommended an exchange of firefighters both ways. Norway is eager to gain more experience in dealing with wildland fires. He said he would like to see Norwegians learn about hotshot crews, fire engines and helicopter use on fires, and for BLM firefighters to spend time with Norwegian firefighters. He mentioned the possibility of exchanges with a Norwegian university or a fire college. He was also interested in the idea of having a Norwegian shadow a Type I Incident Management Team to learn more about ICS. He was interested in the possibility of learning more about U.S. methods of fire investigation.

Pat Kidder, California BLM State FMO and Sheldon Wimmer, Utah BLM State FMO also had some recommendations. Pat suggested BLM look at the Norwegian fire college system to learn more about how Norway maps its natural resources and hazards. Sheldon suggested that Norway may have fire engine systems and technology which might prove useful to the BLM engine program. Sheldon was also interested in how Norway configures and uses Bell 214s for emergency management. Sheldon suggested the Norwegians might want to study the facilities and courses given at the Utah fire/rescue training center.

II TECHNICAL SUPPORT TO INTERNATIONAL WILDLAND FIRE TRAINING, ASSESSMENT, PREVENTION/EDUCATION, AND MITIGATION PROGRAMS

☛ U.S. Forest Service International Programs - Mexico

The 1998 wildfire season in Mexico was the worst in recorded history for Mexico. As an outcome of the Mexico fires, a Memorandum of Understanding was signed between the Government of Mexico's environmental agency (SEMARNAP), and USAID creating the "Mexico National Fires Prevention and Restoration Program." Under this MOU, a grant agreement was developed that, among other aspects, creates a multi-year joint training/exchange program between the U.S. Forest Service and Mexico. The training program covers wildland fire management, aviation, communication, warehousing, fire prevention, and fire rehabilitation.

The oversight for this program is provided by the Forest Service's International Programs Office and the San Bernardino National Forest. The Forest Service requested BLM to take the lead on certain portions of the program involving telecommunications, fire cache management, emergency contracting and technical assistance in the use of imaging satellites. During FY99, BLM personnel

participated in some of these activities and assisted the Forest Service with aviation activities.

Under the agreement with the Forest Service, all travel and per diem expenses for BLM employees were reimbursable. Base eight salary was provided by the employee's home unit. Listed below are the BLM employees and offices who participated in this training effort with Mexico, either by hosting Mexicans or by traveling to Mexico.

- **Heraclio (Rocky) Bernal**, Arizona BLM, Safford Field Office, assisted with helicopter operations training in Chiapas, Mexico, March 12-21, 1999.
- **Mark Barbo**, Remote Sensing/Fire Weather Support Unit, NIFC, **Royce Shearing** and **John Mouldar**, Incident Communications Support Unit, NIFC, and Steven Worden, Alaska Fire Service traveled to Mexico City and Chiapas, Mexico April 19-23, 1999, to review and evaluate the fire suppression warehouse facilities in Mexico, to review the conditions of the donated equipment and materials from the 1998 fire season and to evaluate the necessity and type of training needs, focusing on warehousing and telecommunications.
- IP coordinated with the Forest Service's National Contracting staff at NIFC, to provide two Mexican officials, in July, a briefing on the common contracting system used by the federal wildland fire community to contract for aircraft and fire support services. The Mexicans also received sample documentation and materials on contracting procedures.
- A Mexican official from Chiapas came to the U.S. for two weeks, September 14-24, 1999, to study the National Interagency Support Cache system. He spent the first week with the Forest Service's Silver City, New Mexico fire cache. The second week was spent with staff of the Great Basin Cache and with staff of the Remote Automated Weather Systems in Boise.
- An interagency cadre of trainers from the BLM and the Forest Service gave two weeks of telecommunication instruction to four Mexican telecommunication technicians. The trainers included **Rhonda Toronto**, **Shannon Tippet**, and **Victor Salazar** from National Incident Radio Support Unit, **Carlos Rosas** from the Alaska Fire Service, Marko Munoz from the Malheur National Forest and Tony Martinez from the Shasta-Trinity National Forest. The Mexicans were given the Communication Technician Training Course (S-258). They were also trained in frequency management, telecommunication equipment set-up and use and radio kit refurbishment. The Mexicans also had the opportunity to travel to a project fire in California where they were able to field test and repair equipment actually in use.
- BLM supported a Forest Service initiative to demonstrate a Remote Automatic Weather Station (RAWS) to SEMARNAP and USAID officials in Mexico City. BLM support consisted of sending RAWS technicians **Mark Barbo** and **Don Clark**, to Mexico City, June 14-17, 1999 to set up and demonstrate the RAWS unit.

☼ U.S. Forest Service International Programs - Indonesia, Russia, and Brazil

1997 and 1998 were also severe fire years for the tropical forests of Brazil and Indonesia and the

boreal forests of Russia due to El Nino related droughts. IP supported Forest Service (USAID funded) activities in each of these countries in FY99.

Indonesia: **Allen Biller**, Alaska Fire Service, participated with other international wildland fire experts from Australia, Germany and Indonesia in an assessment of the Indonesian firefighting system. The assessment focused on several key issues including, inventorying what the capabilities of Indonesia were to suppress wildfires, by evaluating equipment, personnel, logistics, coordination and communications; identifying the shortfalls in the system; and recommending methods for better utilization of the country's capabilities. Allen was in Indonesia from October 6-31, 1998.

In their summary, the team stated that the fires of 1997 had adversely impacted Indonesia's environment, economy, socio-cultural and political affairs, both domestically and internationally. This situation they said highlighted the need for Indonesia to develop a nationally integrated fire management system.

Russia: **Steve Morefield**, BLM Oregon traveled to Russia, February 26-March 16, 1999 to assist in completing a wildland fire training program which he had participated in as a Forest Service employee, prior to joining BLM.

Russia: **Dave Curry**, Manager, Alaska Interagency Coordination Center, BLM Alaska Fire Service joined Pete Owston - Sustainable Ecosystems Institute, Oregon, Mike Reagan, Forest Service, Washington Office, Telecommunications and Marian Villasenor - Los Padres National Forest, California - Dispatch/Coordination in an assessment trip to Russia, June 18-July 2, 1999. The overall purpose of the trip was to plan cooperative projects in the areas of resource coordination and communications designed to improve management and suppression response on forest fires in the Russian Far East. Specific objectives included:

- Review the current system of resource coordination among the agencies involved in fire suppression. Discuss the concept and determine any potential benefits of establishing a territorial fire coordination center, similar in nature to the interagency geographic area coordination center concept used in the U.S.
- If the coordination center concept is accepted, or it is agreed that it is worth additional study, develop a schedule for development of a plan. This would likely include study tour(s) to a geographic area coordination center(s) in the US and return trips to Khabarovsk by USFS and BLM specialists.
- Develop detailed plans for purchase of radio equipment. Identify specific equipment to be purchased.

The team developed numerous recommendations that are currently under consideration by the Russians and USAID for possible funding.

III. TECHNICAL SUPPORT TO THE U.S. GOVERNMENT INTERNATIONAL DISASTER RESPONSE ACTIVITIES

U.S. Forest Service - Disaster Assistance Support Program (DASP)

DASP provides essential emergency management technical support to the US Agency for International Development's Office of Foreign Disaster Assistance (OFDA). With program funding from OFDA, the Forest Service provides disaster prevention, preparedness, and response expertise to enhance the U.S. Government's (USG) capability to respond to international disasters, to plan and coordinate USG disaster activities and to improve the effectiveness of response efforts.

In order to carry out its support to OFDA, DASP has set in place a reimbursable agreement with BLM's National Office of Fire and Aviation's International Program to access the capabilities within BLM which can help meet the support requirements for OFDA. DASP has had a close working relationship with BLM for over 10 years, requesting personnel and specialized supplies and equipment. Reimbursement for FY98 and FY99 amounted to about \$290,000. For FY00 DASP has put in place a reimbursable account for up to \$250,000 worth of BLM support.

Below is a listing of the support that BLM provided to OFDA through DASP in Fiscal Year 1999. Support activities for Hurricane Mitch and the Kosovo War refugee support, represent international deployments by BLM employees. Other assignments involved working with OFDA's Logistics Office in Washington, D.C. Although the Washington, D.C. assignments were not as visible or as exciting as an international deployment, they were every bit as important and assisted in saving lives and reducing the suffering of thousands of victims of disasters worldwide. All of the support activities underscore the valuable contribution made by BLM to the U.S. Government's international disaster relief effort in FY 1999.

☼ **Hurricane Mitch - November 1998**

Jim Kitchen, Boise Smokejumper, was in Soto Cano, Honduras which was the headquarters for the U.S. military's Joint Task Force Bravo, the main support base for military aircraft assisting with the relief efforts in Honduras, Nicaragua, Guatemala, and El Salvador. Jim assisted with the coordination of relief flights coming into Soto Cano and with the coordination of U.S. military helicopters delivering relief supplies to villages cut off as a result of the hurricane.

Tom Frey, Office of Fire and Aviation International Program Coordinator, was in San Jose, Costa Rica, serving as the Deputy Team Leader for OFDA's field response team called a Disaster Assistance Response Team (DART). OFDA has a permanent Regional Office for Latin America and the Caribbean in San Jose and used that office as the focal point for coordinating DART activities in Honduras, Nicaragua, Guatemala, and El Salvador. There were about 30 DART members scattered among the four affected countries and Costa Rica. Tom was responsible for managing day-to-day DART operations and advising the DART Leader on relief activity options. OFDA's portion of the U.S. relief efforts for Mitch was about \$30 million.

☼ **Kosovo War Refugee Support - April, May 1998**

Tom Frey, Office of Fire and Aviation International Program Coordinator, was in Germany for the month of April serving as a humanitarian advisor initially to the U.S. military's

European Command Headquarters in Stuttgart and then to the U.S. military's Joint Task Force Shining Hope in Ramstein. The mission of Shining Hope was to coordinate the U.S. military portion of the humanitarian relief efforts for Kosovar refugees in Albania and Macedonia. He provided advice on working with OFDA, the UN and various humanitarian relief organizations to Air Force Major General Hinton, the JTF Commander and to the General's staff. He also coordinated with OFDA DARTs in Albania and Macedonia and with OFDA in Washington reporting on issues and acting as a gateway for information into and out of the JTF on the civilian side.

George Battaglia, Alaska Fire Service smokejumper, worked on detail with OFDA's Logistics Office in early 1999. As the war in Kosovo began, George's focus changed to supporting OFDA's efforts to assist refugees flowing into Albania and Macedonia. In May OFDA requested that George go to Italy to assist with relief efforts centered out of Italy. His assignment was to work with humanitarian relief organizations (HRO) which were involved in airdropping food to refugees trapped inside of Kosovo. George represented OFDA to the HROs.

At the conclusion of the war, George was asked by OFDA to travel from Italy to Macedonia to work as a part of OFDA's Macedonia Disaster Assistance Response Team (DART), assisting with the relief and repatriation efforts for Kosovo refugees. George worked with the DART for about six weeks.

Bill Laspina, Great Basin Cache Returns Warehouse Supervisor was on detail to OFDA's Logistics Office in June when he was requested to accompany an OFDA Logistics Officer to Pakistan. The purpose of his trip was to assist in an evaluation of the production facilities for relief commodities for Kosovo refugees that OFDA was purchasing through a contractor. Some of the relief commodities were substandard and OFDA wanted to know more about the production problems. Bill's background in warehousing and in evaluating conditions of supplies and equipment made his inputs valuable in the evaluation of the Pakistani production facilities.

★ **Support to OFDA in Washington, D.C.**

- Ted Mason - Boise Smokejumper
- Jason Hoffman - Boise Smokejumper
- Kasey Rose - Boise Smokejumper

★ **Support to OFDA from the Great Basin Cache**

The Great Basin Cache has supported and improved OFDA's ability to respond to international disasters over the past several years by assembling "Individual Support Kits" that OFDA issues to disaster responders who may need to be self sufficient for up to 72 hours in a foreign disaster environment. The cache also has assembled and shipped to OFDA, "Office Supply Kits," which provide disaster responders with enough office supplies to initially establish office operations at a foreign disaster site. Another important service that the cache is providing OFDA is storage space (four pallets) for approximately 8,000 *Field Operations Guides* used by OFDA and numerous international disaster responders on field assignments.

✪ DART TRAINING

IP also worked with DASP to train Forest Service and BLM employees for potential overseas disaster relief assignments. IP assisted in the preparation and presentation of three Disaster Assistance Response Team (DART) training/orientation sessions during 1999.

DART's are ICS-based multi-disciplined teams which are sent out by OFDA to disaster sites to coordinate the U.S. Government's international relief efforts. The DART training helps prepare individuals to work in support of OFDA in Washington, D.C. and on international assignments. The training covered the purpose and structure of organizations and offices that one may encounter on these assignments; personal preparation and health and safety issues; cultural awareness and sensitivity in the foreign environment; how OFDA works operationally; and the structure and organization of a DART. Although the training is geared for assignments with OFDA, much of the material covered served as an excellent base for anyone traveling on an international assignment.

27 BLM employees took the courses which were held in Boise, Portland, Lake Tahoe and Atlanta. They were:

Kent Hamilton	Boise, Smokejumper
Mimi Scissons	Boise, Smokejumper
Ken Franz	Boise, Smokejumper
Bill Laspina	Boise, Great Basin Warehouse
Bill Yeager	Boise, Idaho State Office
Victor Salazar	Boise, NIFC, National Incident Radio Cache
Kurt Kleiner	Nevada BLM, Elko Dispatch Office
Nelda Vorce	Nevada BLM, Western Great Basin Coordination Center
Greg Warner	Wyoming BLM, Cody Interagency Dispatch Office
George Battaglia	Alaska BLM, Alaska Fire Service Smokejumper
Rex Alford	Colorado BLM, FMO (Acting at the time)
Danny Arnold	Boise, Smokejumper/RAWS
Eva Brown	Alaska BLM, Alaska Fire Service Training Officer
David Fauss	Oregon BLM, Coos Bay
Patrick Hawe	Oregon BLM, Salem
Chester Novak	Oregon BLM, Salem
Earle Smith	New Mexico BLM, Roswell
Katherine Wiegard	Nevada BLM, Western Great Basin Coordination Center
Loren Cabe	BLM, Denver Federal Center
John Moulder	Boise, NIFC Incident Communications Support Unit
Rick Sanchez	Boise, NIFC, National Interagency Coordination Center
Brent Woffinden	Alaska BLM, Alaska Fire Service Smokejumper
Jay Wattenbarger	Alaska BLM, Alaska Fire Service Smokejumper
Justus Ortega	Alaska BLM, Alaska Fire Service Smokejumper
Bob Means	Nevada BLM, Elko
William Kuntz	California BLM, Susanville
Dave Hall	Arizona BLM, Safford FMO
Allen Edmonds	Montana BLM, AFMO Miles City
Heraclio (Rocky) Bernal	Arizona BLM, Safford

IV OTHER INTERNATIONAL ACTIVITIES

Meetings and Conferences

✪ Peru - World Health Organization Meeting on Forest Fire Related Health Guidelines

Discussion: Roy Johnson, National Fire Program Management, attended a meeting sponsored by the World Health Organization (WHO) and its partner in the Americas, the Pan American Health Organization (PAHO) in Lima, Peru October 6-9, 1998. The purpose of the meeting was to address health aspects of forest fires including: environmental and public health, environmental monitoring, meteorology, modeling, and health effects. The product of the meeting was to be health guidelines for forest fire events. 1998 had been an unprecedented year for forest fires in tropical areas of the world, including Brazil, Indonesia, and much of Mexico and Central America. The fires were mostly human caused and occurred during severe La Nina related droughts. The ill effects of the smoke was a great concern to health officials on several continents.

Roy presented a paper entitled "Guidance on Measures in Emergency Cases." The paper addressed wildland fire prevention, control, mitigation measures, and protective devices. Roy also contributed to the discussions which followed his and other presentations on the subject of health guidelines for smoke from wildland fire smoke. The final published guidelines have not yet been received by OF&A. WHO paid for Roy's airfare, food and lodging.

✪ Mexico - North American Forestry Commission's Fire Management Study Group

Gardner Ferry attended the Fire Management Study Group meeting in Villahermosa, Mexico, November 12-15, 1998. During the week long meeting the group began development of a set of criteria and indicators for wildland fires.

✪ Spain - Participation in an international fire management conference entitled "Major Forest Fires and Systems of Fire Suppression: Catalunya, an Evolving Model."

Discussion: Eric Hagen, Salmon, Idaho BLM Field Office, Deputy FMO was invited to a conference in Barcelona, Spain, March 21 - April 2, 1999, to:

- Give a presentation on fire suppression resources and tactics in the US,
- Engage in discussions on fire suppression and fuels management topics,
- Visit representative field sites and offer advice on fire suppression and fuels management strategies and tactics for those locations.

Other speakers were from various fire and emergency management agencies from Spain, Portugal, France, Italy, the Netherlands, Greece, Canada, Australia, Tasmania, California (Ventura County), Oregon (USFS, Wallowa-Whitman NF), Washington State (Journal of the International Association of Wildland Fire), Montana (USFS, Missoula Fire Lab), and

Florida (State of Florida, Division of Forestry).

The conference was two days followed by field site visits to several areas in the State of Catalunya including the site of 1998, 60,000 acre fire.

Findings/observations/conclusions: Eric commented that this was a very ambitious conference, with a very full agenda, but Eric believed much was learned by the hosts and the participants. He said he learned a great deal about some of the ecosystems in Catalunya and commented that the Catalunya fuels problems are every bit as challenging and complex as what we face in the U.S. From the discussions and presentations, he observed that suppression tactics and resources used are fairly standard throughout the Mediterranean area, generally direct attack with engines supported by water-carrying air tankers. All of Catalunya's neighbors feel they can deal with a worsening catastrophic fire situation merely by getting more suppression resources and money, none of them made any mention of fuels management strategies or programs.

Eric said that the initiator of the conference was a Catalunan forester, who spent time in the U.S. in 1997 learning about prescribed fire from the U.S. Fish and Wildlife Service. The conference had the purpose of initiating a much-needed fuels management program in Catalunya. Eric felt the conference was a success because the Catalunan forester received funding to begin a fuels management program. Eric commented that if the proposed program is a success, it could have a dramatic effect on fire management in other Mediterranean countries in the area. Eric recommended that BLM continue to support involvement in such activities.

✿ **Australia - 1999 Australia / New Zealand Study Tour**

Discussion: Ed Shepard, Deputy Director, National Office of Fire and Aviation accompanied an interagency and international group made up of representatives of the Forest Service, the National Park Service, and the Canadian National Parks Service on the 1999 Australia/New Zealand Study Tour. The tour took place March 16-April 16, 1999, and included visits to four Australian states and the north island of New Zealand.

Information exchanges began in 1951. Formal tour exchanges among fire management specialists were established in 1971. The purpose of these exchanges is to further the understanding and application of modern fire management challenges and solutions.

The complete report includes an executive summary, programmatic observations, operational observations, a Canadian perspective, a summary and appendices. The report also includes numerous specific recommendations. The complete report is available through the International Program.

Findings/Observations/Conclusions: The greatest benefit to the United States/Canada Fire Management Study Team is the realization that fire management problems and issues in the United States/Canada are similar to problems and issues in Australia/New Zealand even though responses and mitigation to these issues may be different in different countries.

The second major benefit to the Study Team is the opportunity to consider concepts,

programs, and issues in a more holistic, and in some cases, more objective context. The opportunity offered a chance to re-focus and clarify the team's perspectives about broad resource and fire management aims in both the U.S. and Canada.

Specific benefits to the participants included:

- A more informed fire manager,
- Real cost benefits from analyzing, in place, different organizational strategies and their outcomes,
- Future contacts and relationships for information sharing,
- Creation of new ideas and initiatives for adoption in the United States and Canada.

✿ **Canada - North American Forestry Commission's Fire Management Study Group**

Les Rosenkrance attended the annual Fire Management Study Group meeting in Kelowna, B.C., Canada, September 27-30, 1999.

Other International Issues:

✿ **Wildfire Protection Agreement Between the U.S. and Mexico**

Another issue arose in June of 1999, when the United States and Mexico signed an agreement on cross border wildfire protection. The purpose of the agreement is to enable wildfire protection resources originating in one country to cross the border in order to suppress wildfires on the other side of the border in appropriate circumstances, within a six mile *zone of mutual assistance*. The other purpose of the agreement is to give authority for both sides to cooperate on other fire management activities outside the zone of mutual assistance. Secretary Babbitt signed the agreement for the Department of the Interior and Anne Kennedy the Deputy Under Secretary for Environment and Natural Resources signed for the Department of Agriculture.

In late June, IP along with Al Alvarez, BLM State FMO for Arizona, joined representatives from the Forest Service, the Fish and Wildlife Service and the National Park Service in Boise, to discuss an implementation strategy for this agreement. The group drafted a national level operating plan which will eventually be included in the National Interagency Mobilization Guide. As a template for the national operating plan, the group used the current Canadian operating plan in the Mobilization Guide. They also reviewed the requirements for local operating plans as outlined in the agreement. Local operating plans will be developed which mirror the national plan but are more specific to the local areas of responsibility.